REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated April 4, 2008. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

Status of the Claims

As outlined above, claims 2-5, 7-15, 17, and 35 stand for consideration in this application, wherein claims 2, 17, and 35 are being amended. Claims 18-34 stand withdrawn from consideration in this application.

All amendments to the application are fully supported therein. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

Prior Art Rejection

Claims 2-5, 7-15, 17, and 35 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over George et al. (U.S. Pat. No. 5,774,669), in view of Kracht (U.S. Patent No. 6,377,987). Applicants have considered the above-noted rejection, and hereby respectfully traverse.

The present invention as recited in claim 2 is now directed to a method of automatically recognizing a network configuration, for automatically recognizing a device configuration on a network system having a network node including at least one or more intelligent network devices each implementing an SNMP agent and a management information base, the method comprising: a first step of sending an ICMP echo request from an administrator terminal implementing an SNMP manager to individual network devices in the network node, and detecting existence and non-existence of network devices on the basis of responses therefrom, the administrator terminal implementing an SNMP manager, wherein the network devices include at least one device having plural IP addresses except for a router; a second step of creating plural different SNP messages each for inquiring whether or not the network devices support management information base included in each SNIP message, sending the plural SNMP messages one by one to the SNMP agents in network devices of which existence was detected to exist in the first step, and detecting the types of the network

devices in the network node based on information of success and failure of sending and receiving the plural SNMP messages and based on combinations of information stored in management information bases included in the received SNMP messages, wherein the types of the individual network devices and roles of the individual network devices in the network node are determined based on the combinations of the information stored in the management information bases included in the received SNMP messages and wherein the type of device does not indicate the role of device primarily in terms of the device having the plural IT addresses except for the routers; a third step of acquiring a set of physical addresses of network devices connected to ports of a network devices from the management information base of the network device, the network device being a type of device to have a bridge function; a fourth step of acquiring information as to physical-IP address correspondence from the management information base of a network device having a routing function; and a fifth step of recognizing at an IP level the network devices connected to each of the ports of the network device having a bridge function, based on the acquired information as to physical-IP address correspondence.

Claims 17 and 35 recite substantially the same features as claim 1, at least with respect to a first step of sending an ICMP echo request from an administrator terminal implementing an SNMP manager to individual network devices in the network node, and detecting existence and non-existence of network devices on the basis of responses therefrom, the administrator terminal implementing an SNMP manager, wherein the network devices include at least one device having plural IP addresses except for a router; and a second step of creating plural different SNP messages each for inquiring whether or not the network devices support management information base included in each SNIP message, sending the plural SNMP messages one by one to the SNMP agents in network devices of which existence was detected to exist in the first step, and detecting the types of the network devices in the network node based on information of success and failure of sending and receiving the plural SNMP messages and based on combinations of information stored in management information bases included in the received SNMP messages, wherein the types of the individual network devices and roles of the individual network devices in the network node are determined based on the combinations of the information stored in the management information bases included in the received SNMP messages and wherein the type of device does not indicate the role of device primarily in terms of the device having the plural IT addresses except for the routers.

As amended, the present invention is directed to a network configuration recognition method including sending an ICMP echo request from an administrator terminal implementing an SNMP manager to individual network devices in the network node to detect the existence and non-existence of network devices on the basis of responses therefrom, and then sending the plural SNMP messages one by one to the SNMP agents in the individual network devices which have been detected to exist in the network. In effect, SNMP requests are sent after communication based on an ICMP echo request is completed.

In the Office Action, the Examiner asserted that the combination of George and Kracht shows all the feature of the present invention as claimed. Further, the Examiner argues that, contrary to the Applicants' contentions, the prior art cited does teach using SNMP or ICMP and that the role of a network device can be determined according to the type of device. Applicants respectfully disagree.

Applicants will first point out that George merely states that the Server Module (SM) assigns each Input Output Module (IOM) a domain of subnets of networked devices to monitor a computer network by SNMP **or** by ICMP, while additionally promiscuously monitoring the local Ethernet for indications of device up and functioning status according to low level protocol analysis to establish a low device information, permitting only device state change message traffic between IOM and SM (col. 4, lines 52-61). George merely shows that either SNMP and ICMP is used to monitor the network, but does not show or suggest how either is interchangeable with the other nor how SNMP may be applied in some aspects, and ICMP in others, as the Examiner appears to suggest.

The secondary reference of Kracht merely shows identifying the type of device MIB. Kracht says nothing about the relationship between ICMP and SNMP, and thus fails to provide any disclosure, teaching or suggestion that makes up for the deficiencies in George.

Second, the present invention as recited in claims 2, 17 and 35 defines how to determine the role of device, except for a router, having plural IP addresses. Applicants will point out that the type of device does not always indicate the role of device. For example, a network device sometimes operates as a router if it has at least two NICs (Network Interface Cards). On the other hand, a network device sometimes operates as a terminal device even if it has at least two NICs and if the NICs are not set up properly. In such cases, only referring to the MIB by SNMP is not sufficient to recognize the role of the device correctly because a device having at least two NICs each which has an IP address may be recognized as a router if determining only by MIB. That is, it can not be determined correctly whether or not each

IP address is connected to the network until polling operations to the at least two IP addresses are actually performed by an echo request, as in the present invention. The present invention not only monitors the value of ipForwarding shown in Fig. 13, but also uses data on at least one of a DF-Term model, a IF-term model and a SF-Term model (see Fig. 28) to determine whether an IP address of another segment is stored in a port or performs polling by an echo request to detect whether a device includes at least two NICs. Thus, sending the SNMP request after the echo request is useful to identify the roles of the network devices.

Neither George nor Kracht teaches or suggests determining the types of the individual network devices and roles of the individual network devices in the network node based on the combinations of the information stored in the management information bases included in the received SNMP messages wherein the type of device does not indicate the role of device primarily in terms of the device having the plural IP addresses except for the router. Kracht only teaches determining types of network devices based on identification information from SNMP agents in the network devices, wherein the type of device indicates the role of device directly, such as a printer, a router and so on. Kracht does not provide any teaching or suggestion for how to determine the role of a device when the type of device is known from the identification information but the device other than being a router has plural IP addresses. Since George and Kracht are completely silent on the above-discussed features of the present invention as now claimed, the combination of elements of the present invention cannot be obvious in view of any combination of George and Kracht.

Rather, Applicants will contend that the prior art cited is so deficient that the only way that this combination of references could embody each and every feature of the present invention would be by using knowledge gleaned from the disclosure of the present invention as a blueprint for the combination. It is well established in the courts that a rejection based on combining references in this manner is improper. As further stated by the Federal Circuit in *Uniroyal Inc. v. Rudkin-Wiley Corp.*, 5 U.S.P.Q. 2d 1434, 1438-41 (Fed. Cir. 1988):

> "When prior art references require selective combination... to render obvious a subsequent invention, there must be some reason for the combination other than the hindsight gleaned from the invention itself." *Interconnect Planning Corp. [v. Feil]*, 774 F.2d [1132,] 1143, 227 U.S.P.Q. [543,] 551 [(Fed. Cir. 1985)]. *See also Ashland Oil, Inc. v. Delta Resins & Refractories, Inc.*, 776 F.2d 281, 293, 227 U.S.P.Q. 657, 664 (Fed. Cir. 1985), *cert. denied*, 475 U.S. 1017 (1986). Something in the prior art as a whole must suggest the desirability, and thus the obviousness, of making the combination. *Lindemann Maschinenfabrick GmbH v. American Hoist and Derrick Co.*, 221 U.S.P.Q. 481, 488 (Fed. Cir. 1984).

Consequently, Applicants will contend that the present invention as recited in at least the independent claims 2, 17 and 35 is distinguishable from and thereby allowable over the prior art of record. As to dependent claims 3-5 and 7-15, the arguments set forth above with respect to independent claim 2 are equally applicable.

Conclusion

In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

Stanley P. Fisher
Registration Number 24,344

Juan Carlos A. Marquez
Registration Number 34,072

REED SMITH LLP
3110 Fairview Park Drive
Suite 1400
Falls Church, Virginia 22042
(703) 641-4200

October 1, 2008
SPF/JCM/